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ABSTRACT

Is currently produced software helping solve specific problems, or is it geared toward maintaining outmoded educational programs? Can it be a creative service? One should ask of any given piece of software if it is produced to interrelate with all the other learning resources and experiences of the student, rather than to fit a particular machine or particular course. The International University of Communications, beginning operations in 1971, will be based on an individualized learning-tutorial system which will use educational technology to free the teacher from all the machine-like parts of his job and leave his time for personal, advisory work with students. The crucial question is whether the software industry will be able to supply the University with the highly integrated, multi-media, inter-curricular content needed for effective application of this learning system. (Author/RH)

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THE SOFTWARE GAP: RELEVANCY IN CONTENT AND TECHNIQUE

An address to the American Management Association
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August 14, 1969 at the New York Hilton Hotel, New York City

by

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Are you old enough to remember when the liberal arts majors in college looked down on the engineering majors as non-intellectual toy tinkerers?

Do you think, this week at this conference, there might be similar attitudes of software people toward hardware people?

(The term software invariably carries, for me, the connotation of a department store counter piled full of socks and underwear. Perhaps by next year we'll find a better word?)

Those who work principally with the content of communications tend to think of their bag as the only one filled with meaningful goodies. In an abstract sense there is some validity for this. One might say that the value of atomic energy depends on the uses to which it is put.

Software for software's sake is as relevant as hardware for hardware's sake.

Question: is currently produced software helping to solve specific social, political, or economic problems of the world or is it geared toward maintaining the irrelevancies of antiquated and outmoded educational programs which bear little relationship to the gut issues and crises of the world today?

When we talk about the software gap are we talking about quantity or quality?

On the surface there seems to be a clear quantity gap. Suppose we suddenly produce enough software to keep every bit of hardware working to capacity? Is that closing the gap? Is software a mediocre product? And destined to remain so because it is tailored to serve mediocre purposes?

Perhaps software is not a product. Maybe it's a service. An intellectual and emotional service. To change people, individually and in groups, subliminally and outright? Is it being used now as an interpretive, second-hand factor? Principally a conversion into other forms what is otherwise in print? Can it be original? Can it be creative, as opposed to interpretive?

The mass media, by having shown to many people what is possible, but often not probable in the world for them, have created intense dissatisfaction in many areas of private and public attitude.

To what degree is software being produced which will 1) increase the dissatisfaction with the status quo and move the world forward; or, 2) lessen the dissatisfaction and provide bases for understanding those existing values and goals which still pertain; or 3) stimulate an understanding and desire for a totally new structure of communication resources, devices, problems, solutions and impact, that seem to be emerging from an ever-increasing polarity?

A corollary of the significance of the content of software is its relationship to the total education process. To what degree is any given item of software being produced to interrelate with all the other learning resources and experiences of the student?

Did the separate noncommunicating tribes of Neanderthal man each invent a part of the wheel, with each group intensely satisfied with its curved segment, with the progress it had made in being able to achieve a partial revolution?

How much and what kind of software is being produced as part of a total communications system learning approach? How much is being produced on a narrow demand-supply approach to fit a particular machine or particular course? Has the software industry taken the lead in developing a market by showing how content and system can make educational technology essential to relevant education and to society's progress?

What about those few educational systems, in formal education, industry and government, and those individual formal and informal educational institutions that not only are prepared to, but want to use the full potential of educational technology?

For example, The International University of Communications, which plans to begin operation in 1971, has as its base an individualized learning-tutorial system. Basic theory-information, in all media, in social-political-economic areas, and in professional application areas of communications will be learned by the student at his own pace through multi-media individual learning carrels. This will include computerized, programmed, video, audio and all other methods of learning. This approach will relieve the teacher from the onerous duty of being a machine, and permit the machine to do that job. The teacher can then work on a personal, advisory basis with the student in his evaluative, research and field application work.

Student chosen projects, individually designed programs, individual requirements and standards will combine with techniques to provide the fullest and most self-perpetuating student learning situation. For the

first time student contribution will truly be directly proportionate to student intake.

Will the software industry be able to supply the University with the highly integrated, multi-media, inter-curricular content needed for effective application of this learning system? Will the University have to rev up the software industry by supplying it with relevant materials?

Until educational communications provide a relevancy in content and in learning technique, we shall have a software gap.